

FIG. 1

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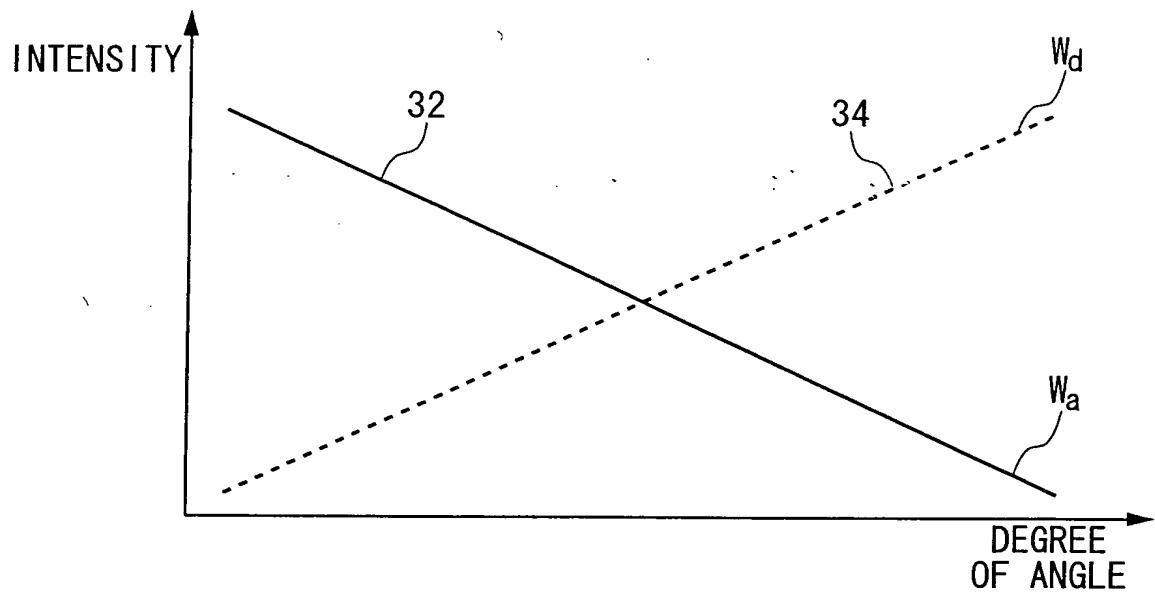


FIG. 2A

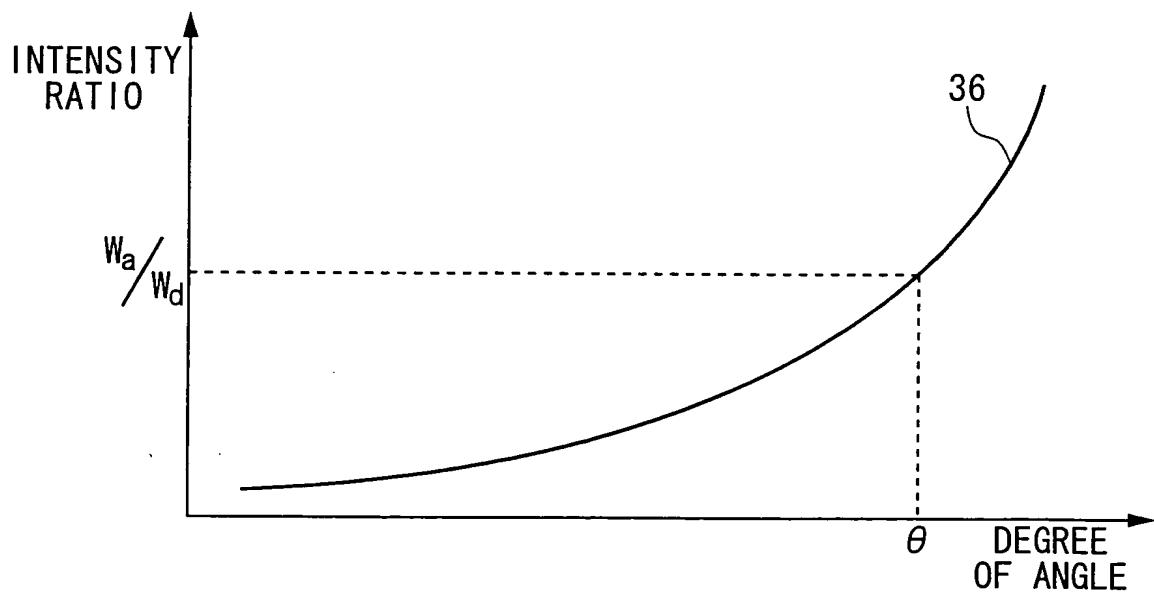


FIG. 2B

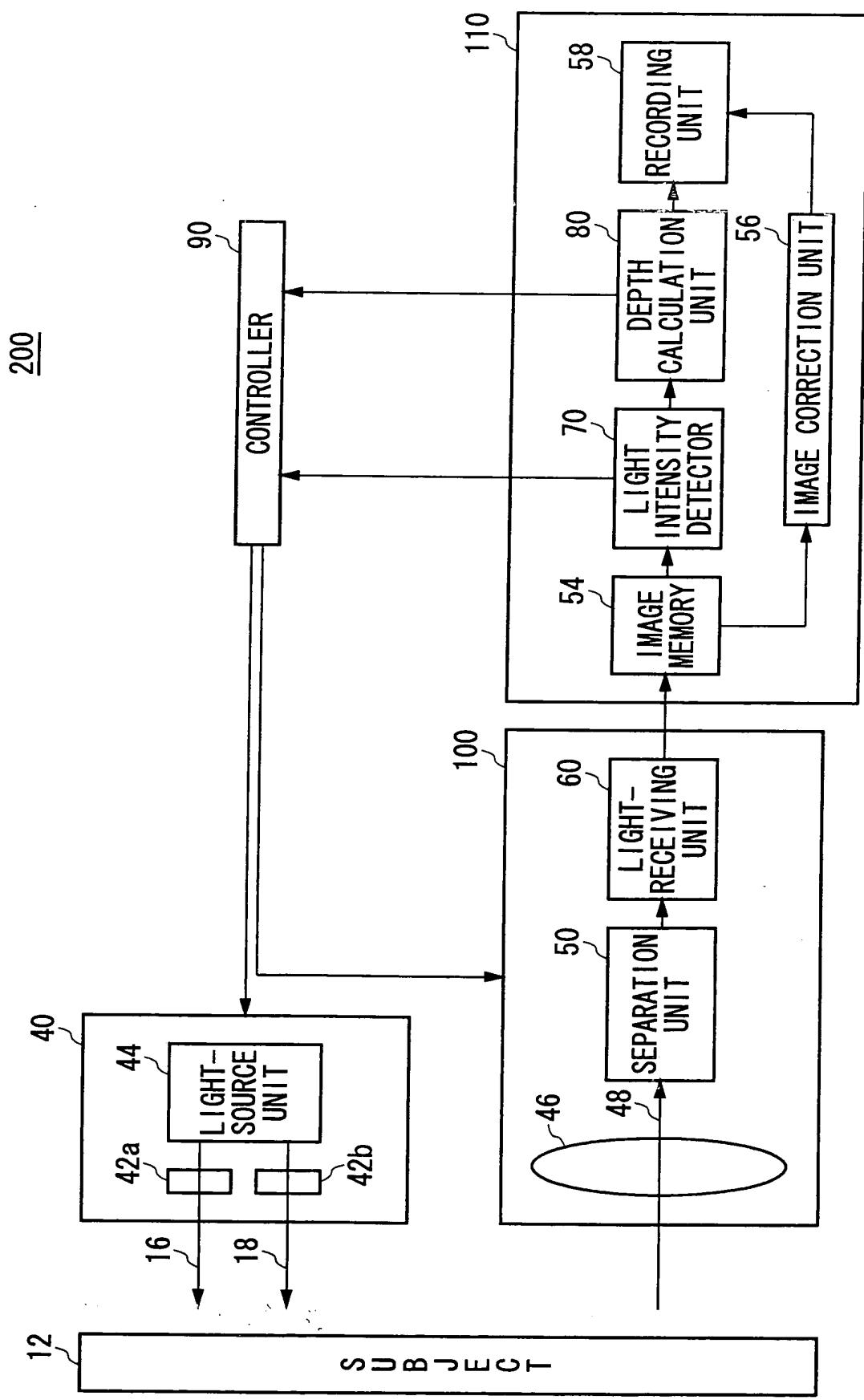


FIG. 3

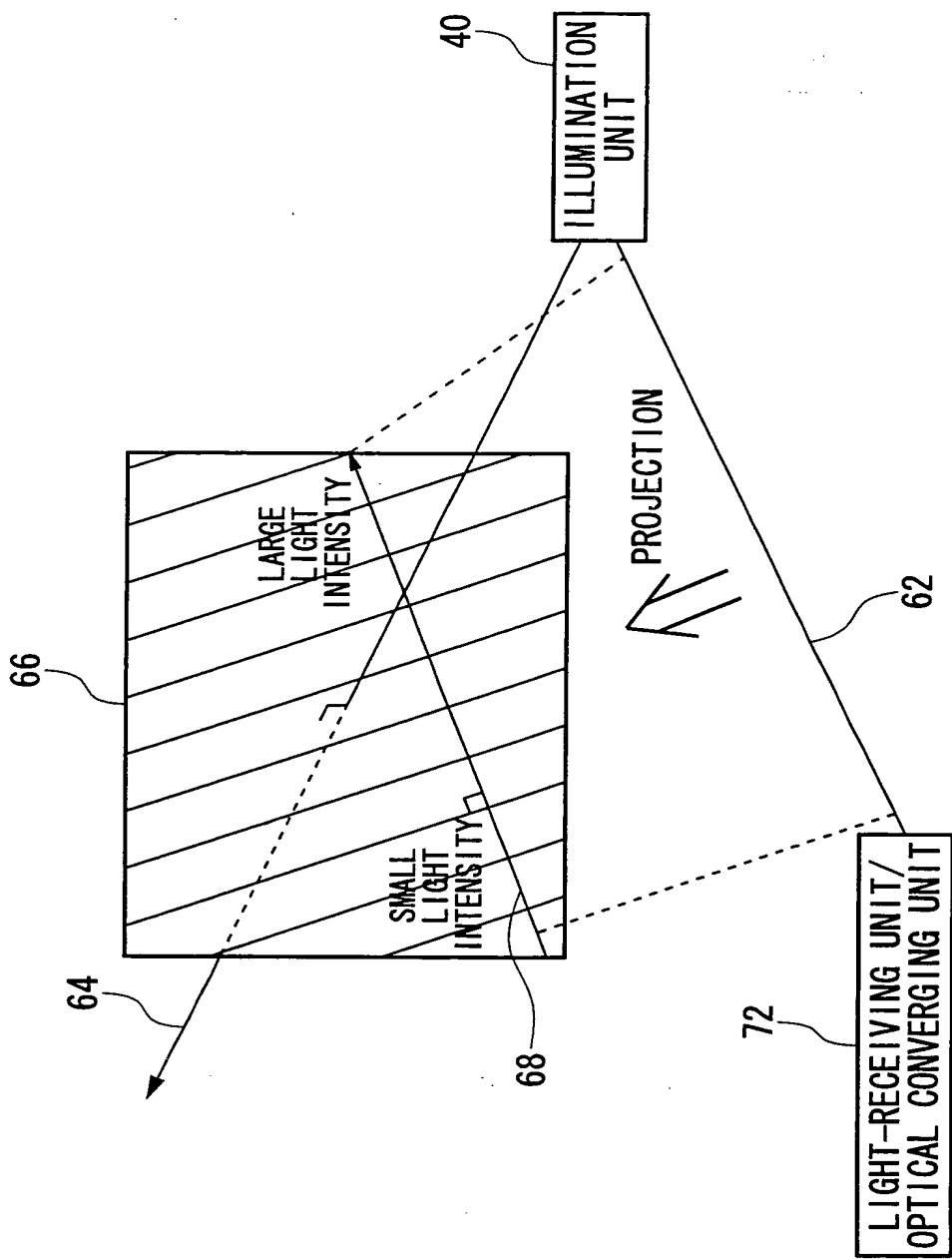


FIG. 4

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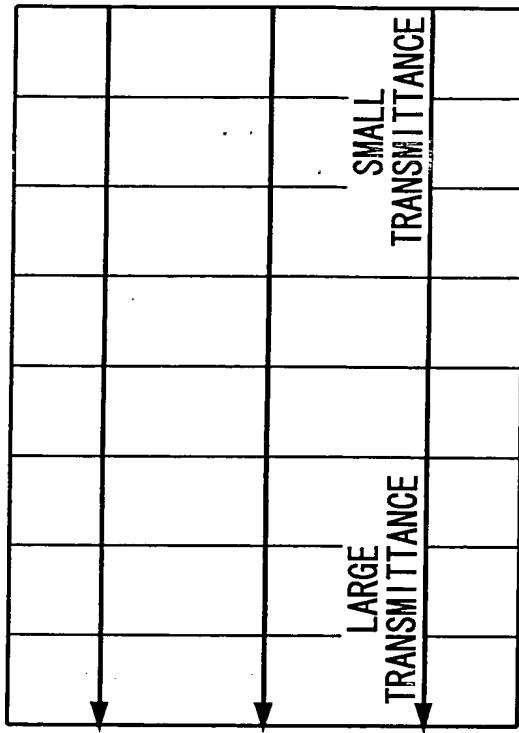


FIG. 5B

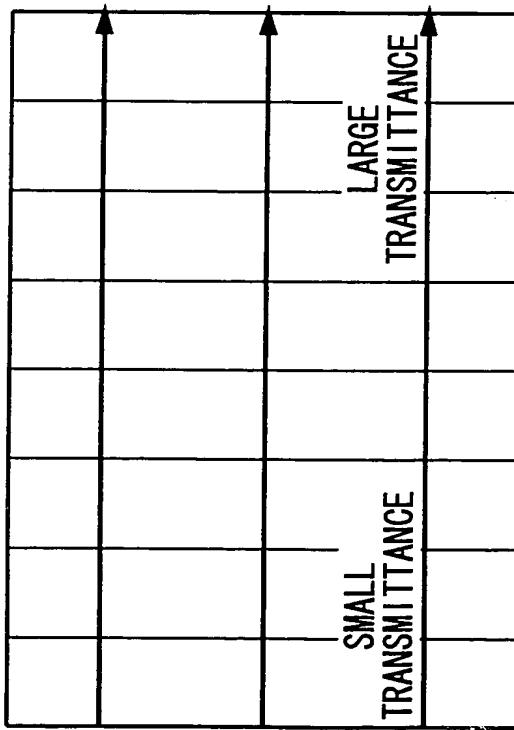


FIG. 5A

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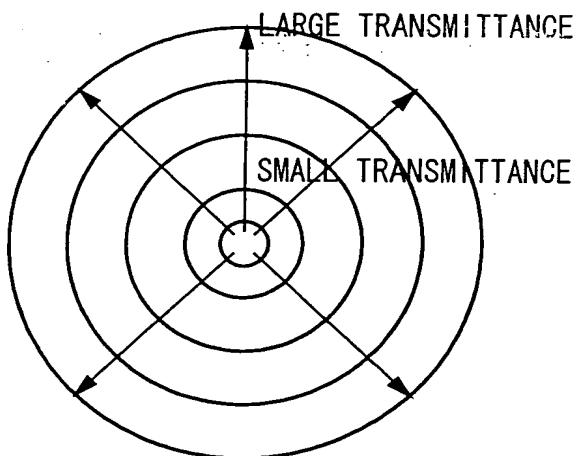


FIG. 5C

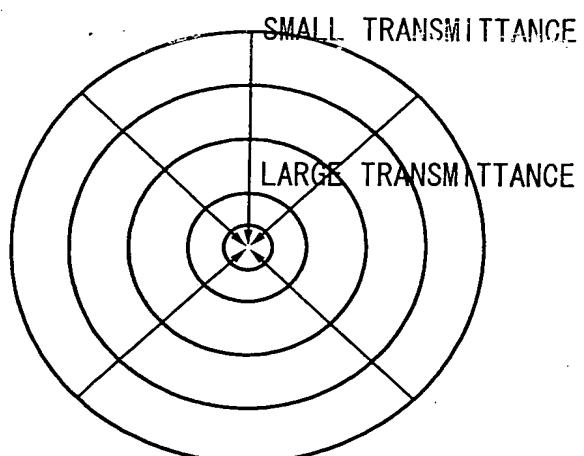


FIG. 5D

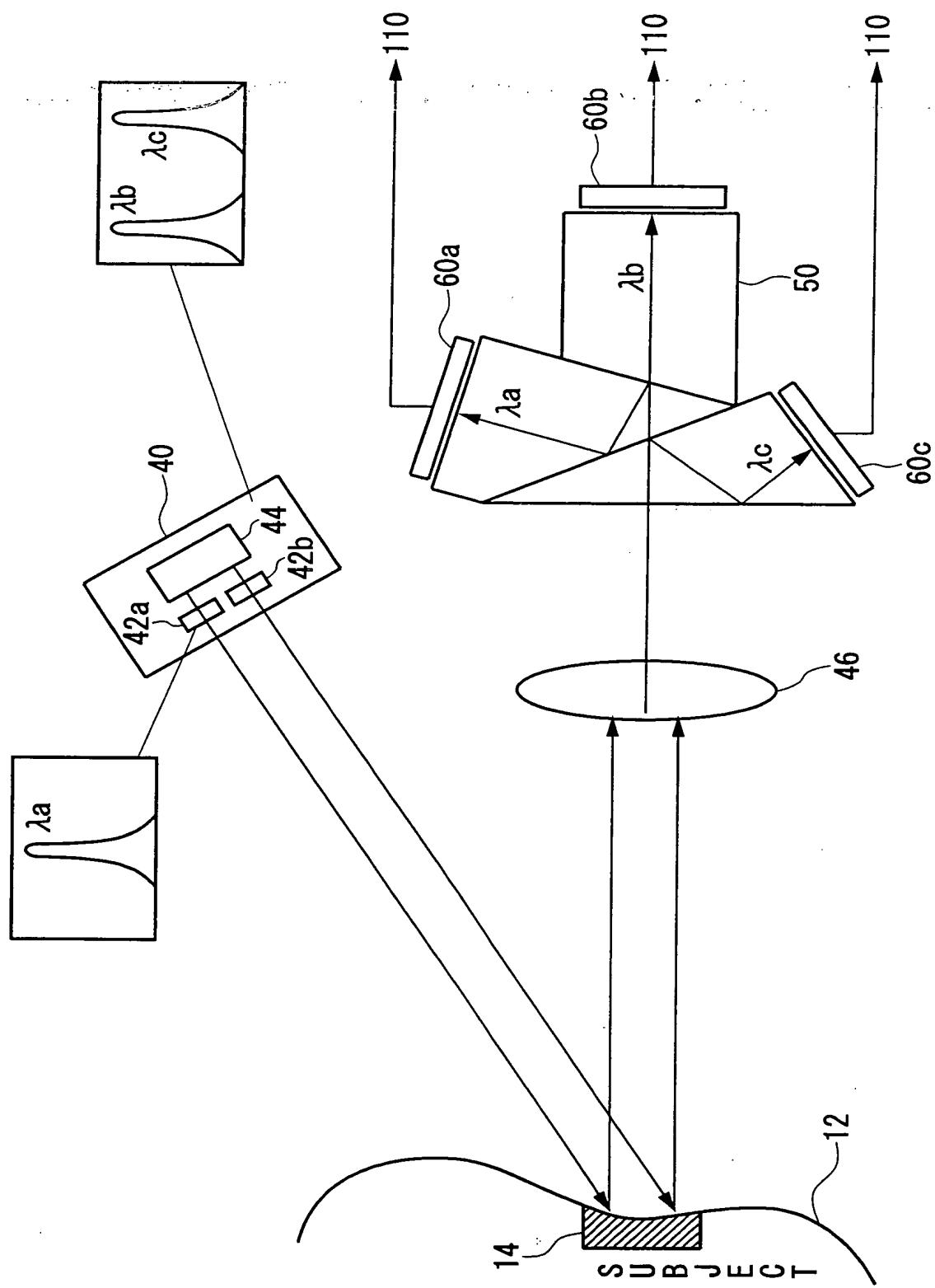


FIG. 6

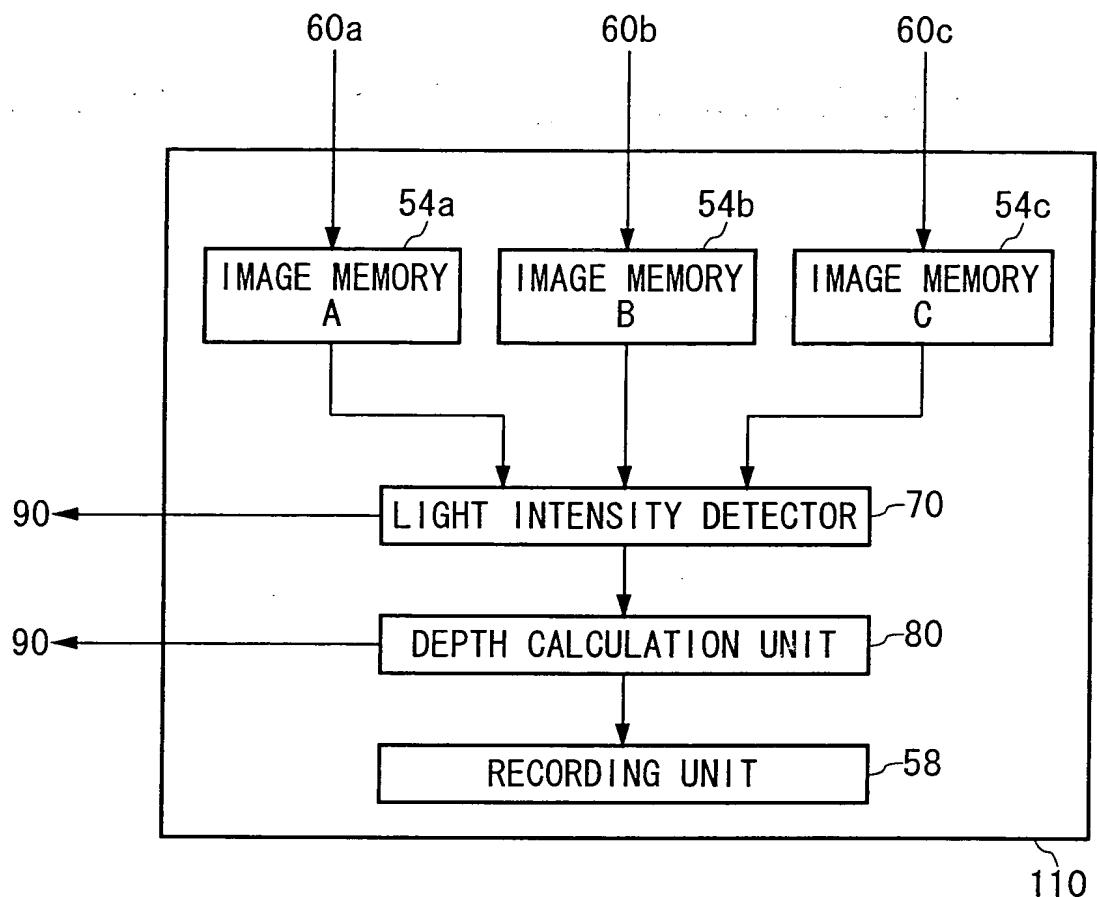


FIG. 7

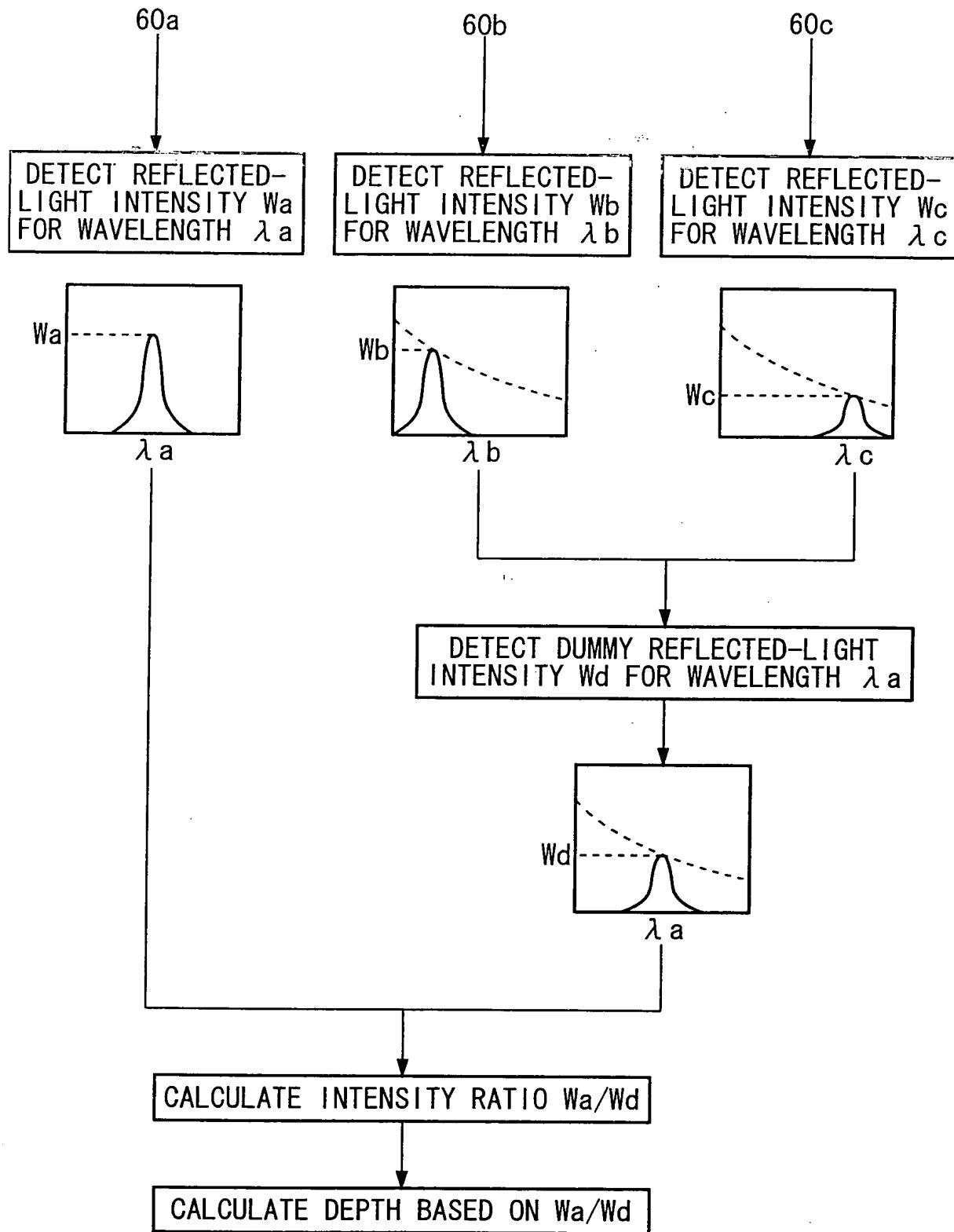


FIG. 8

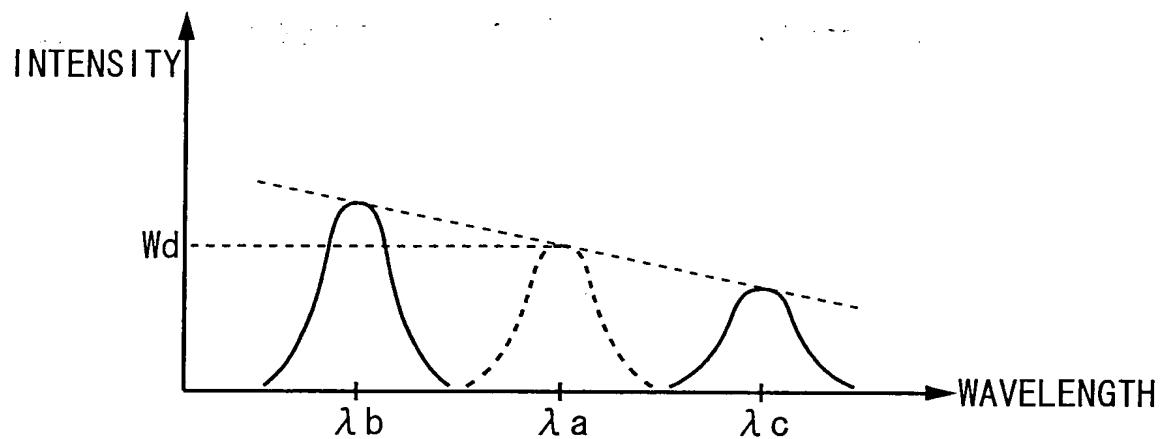


FIG. 9A

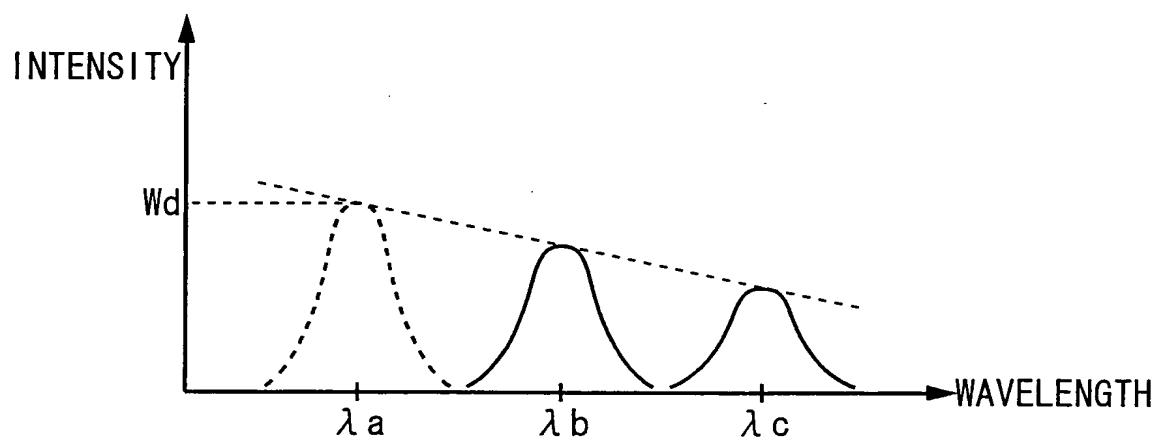


FIG. 9B

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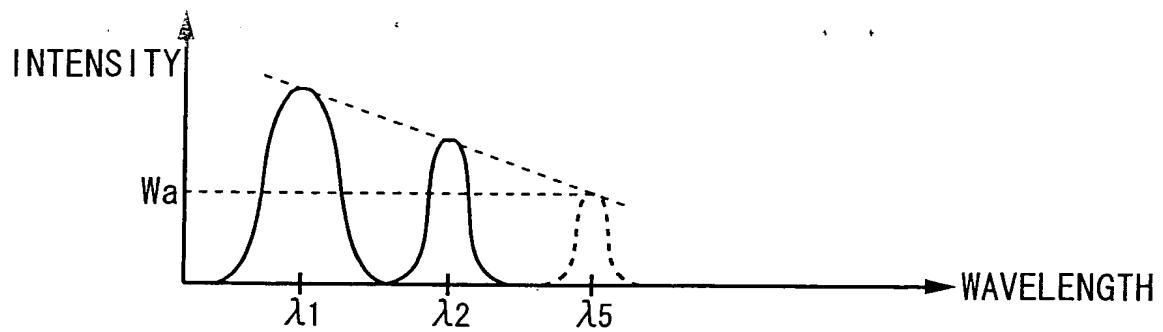


FIG. 10A

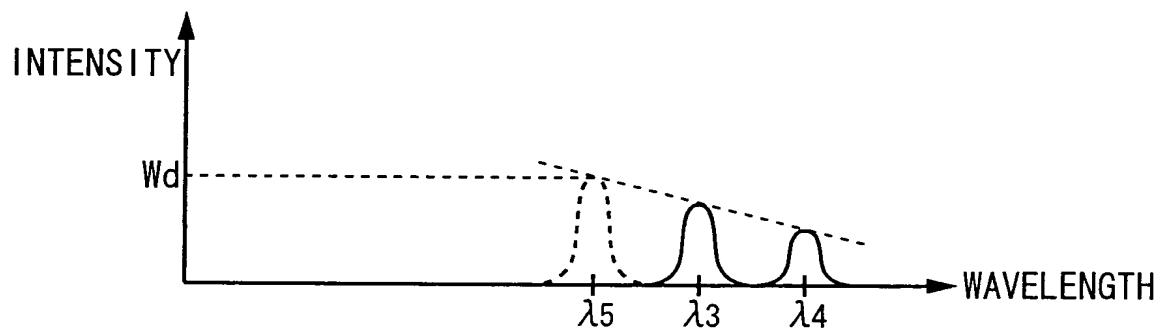


FIG. 10B

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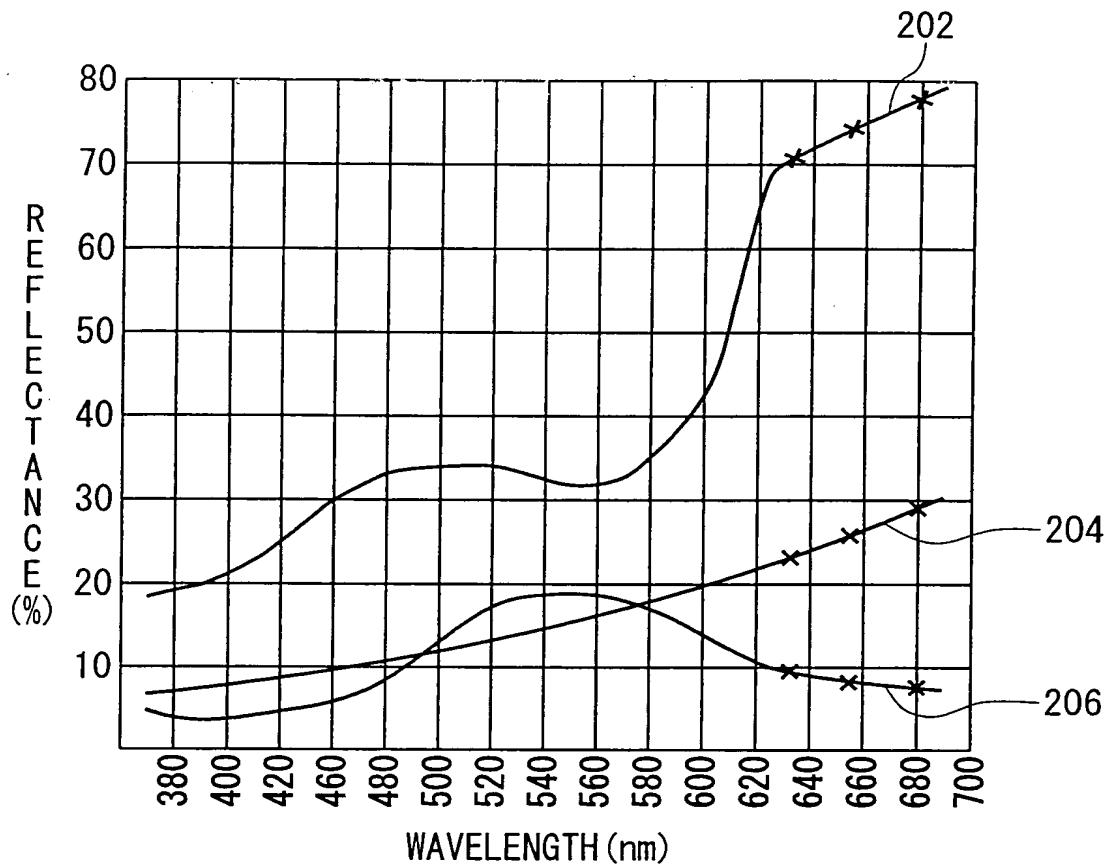


FIG. 11

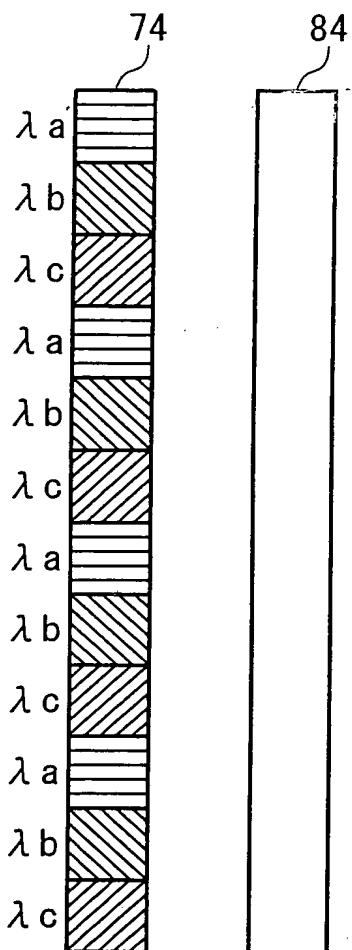


FIG. 12

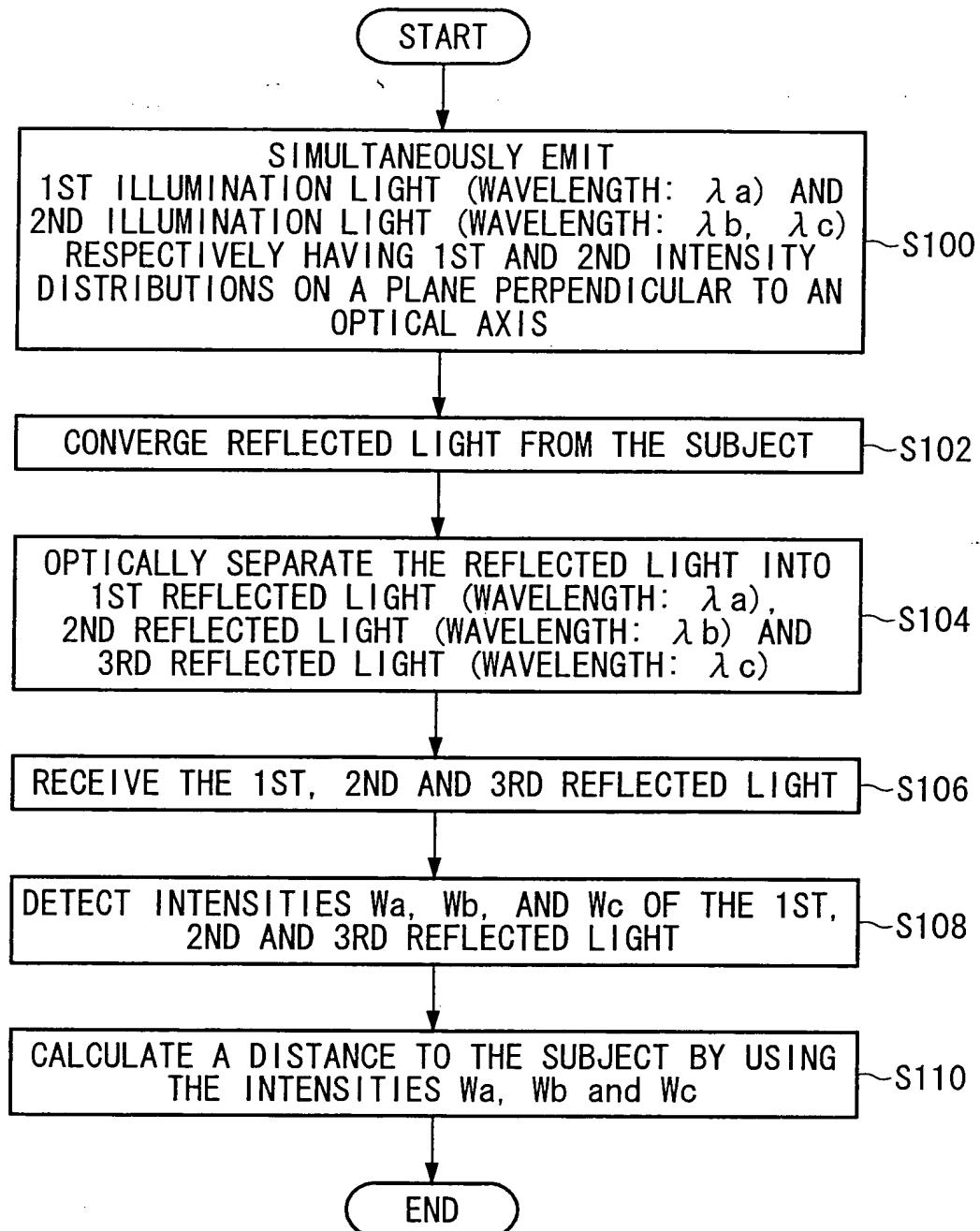


FIG. 13

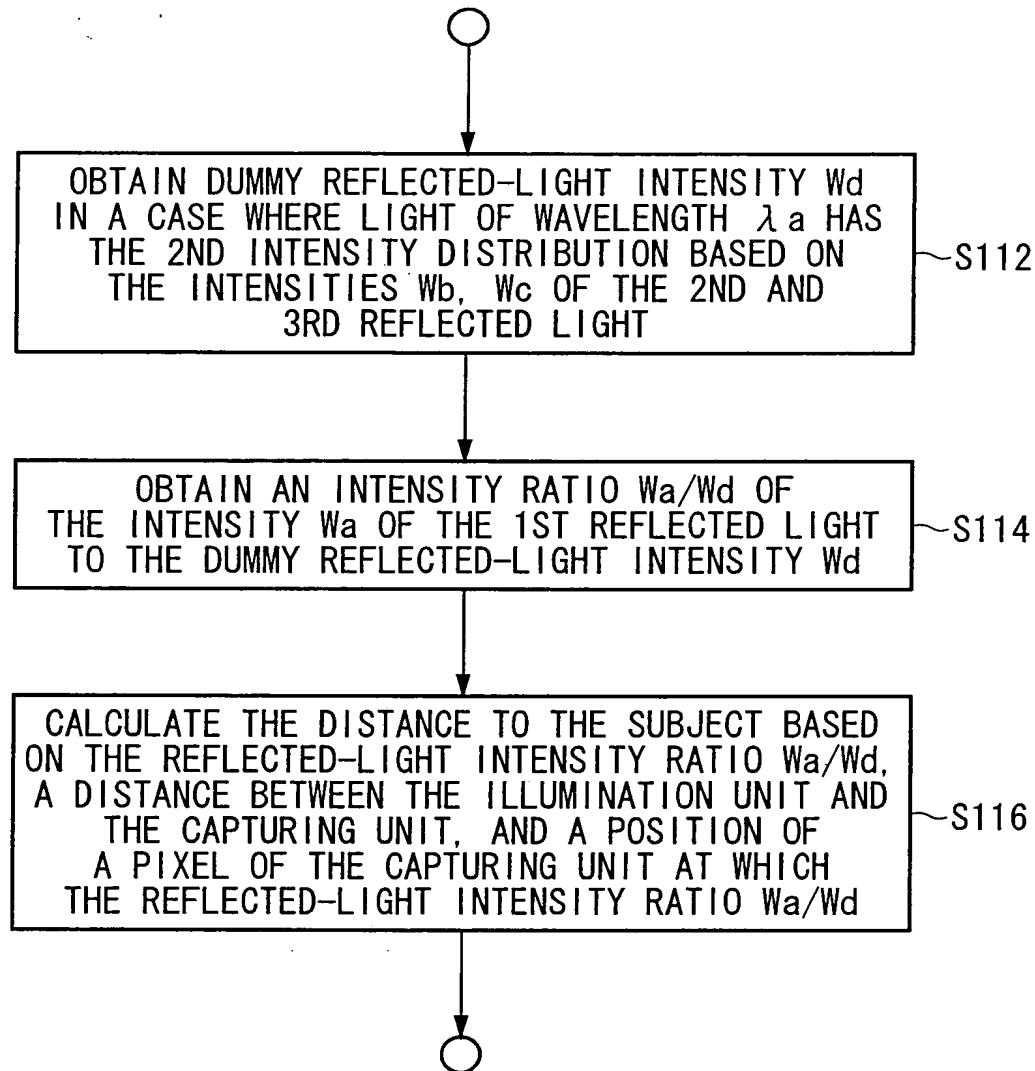
S110

FIG. 14

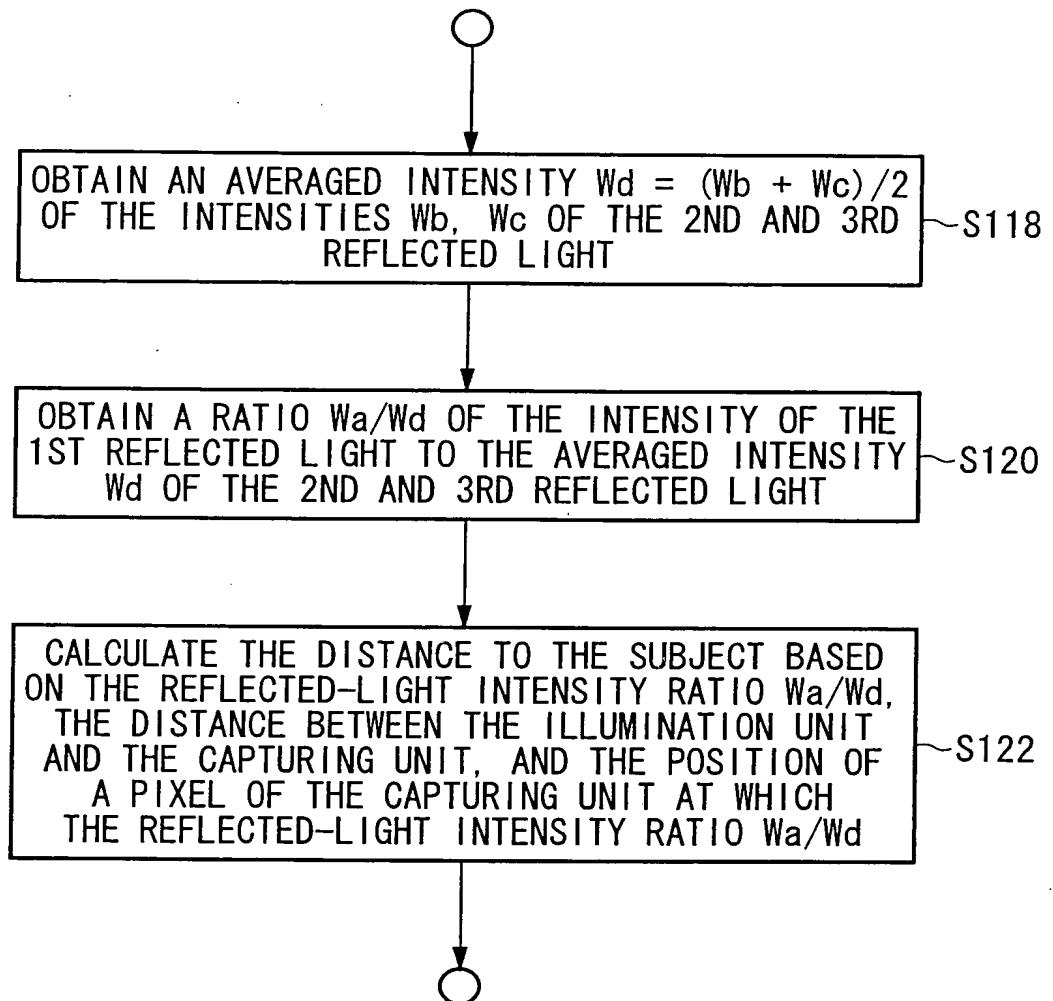


FIG. 15

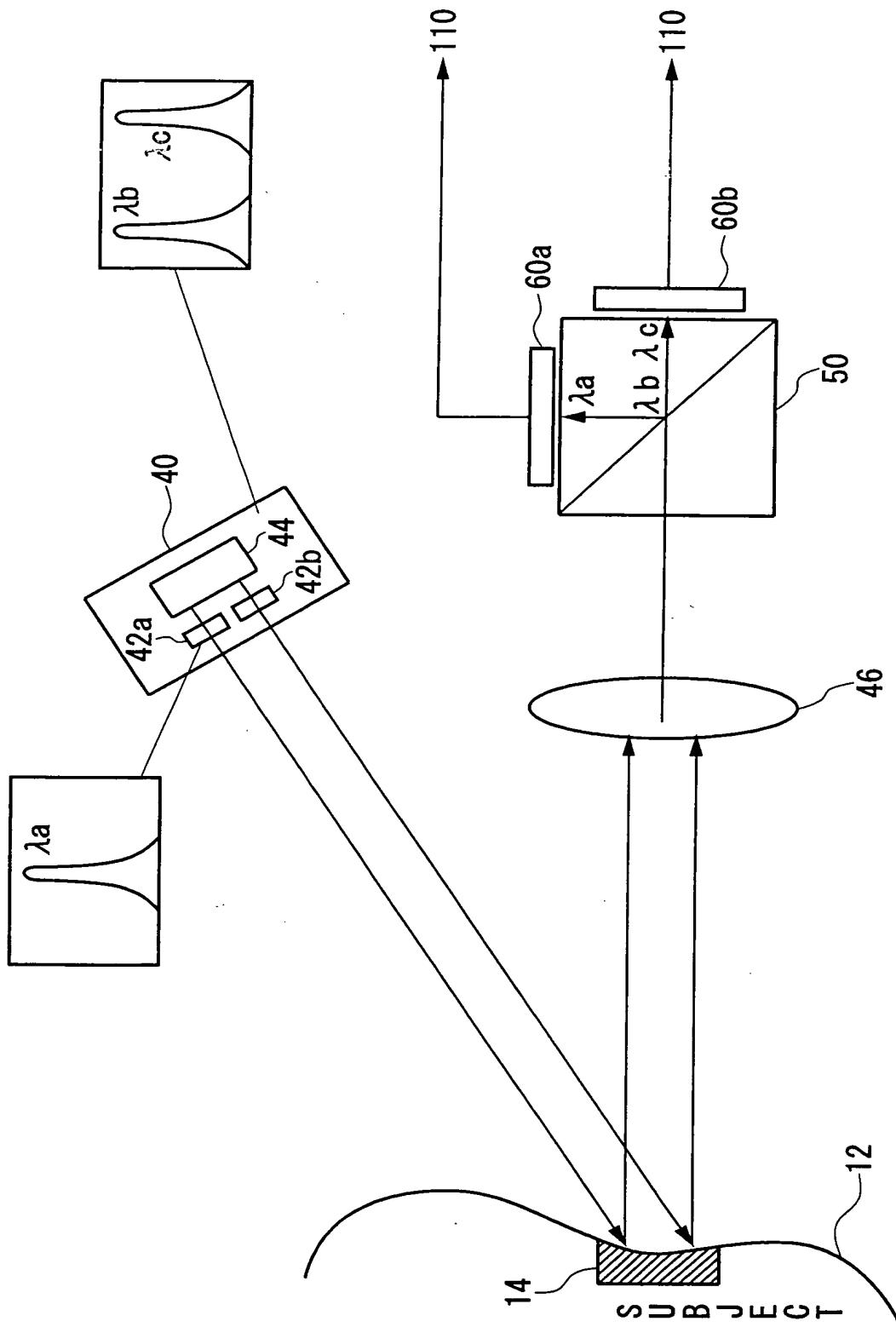


FIG. 16

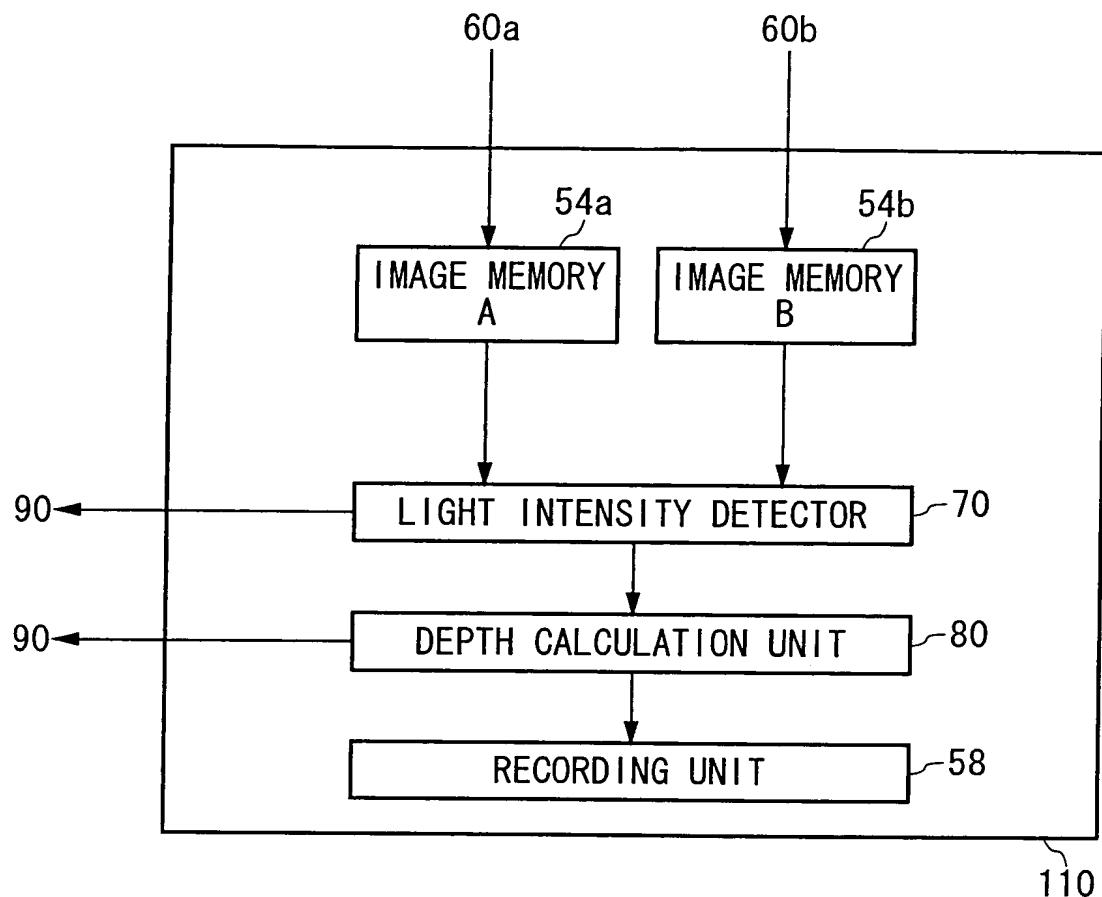


FIG. 17

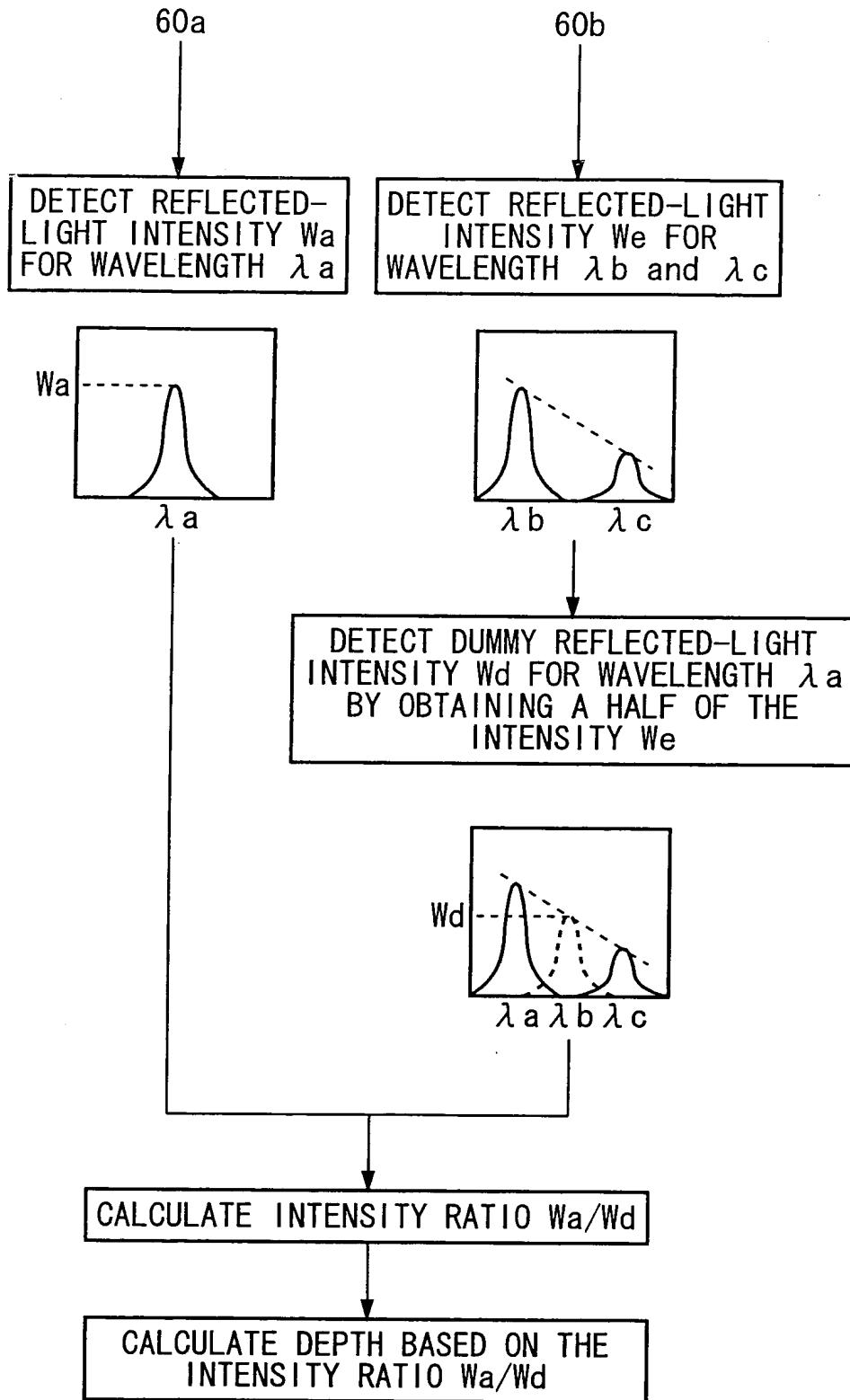


FIG. 18

```

graph TD
    START([START]) --> S200[SIMULTANEOUSLY EMIT 1ST ILLUMINATION  
LIGHT (WAVELENGTH: λa) AND 2ND ILLUMINATION  
LIGHT (WAVELENGTH: λb (< λa), λc (> λa))  
RESPECTIVELY HAVING 1ST AND 2ND INTENSITY  
DISTRIBUTIONS ON A PLANE PERPENDICULAR TO  
AN OPTICAL AXIS]
    S200 --> S202[CONVERGE REFLECTED LIGHT FROM THE SUBJECT]
    S202 --> S204[OPTICALLY SEPARATE THE REFLECTED LIGHT INTO  
1ST REFLECTED LIGHT (WAVELENGTH: λa) AND  
2ND REFLECTED LIGHT (WAVELENGTH: λb, λc)]
    S204 --> S206[RECEIVE THE 1ST AND 2ND REFLECTED LIGHT]
    S206 --> S208[DETECT INTENSITIES Wa AND We OF THE 1ST AND  
2ND REFLECTED LIGHT]
    S208 --> S210[OBTAIN A RATIO Wa/Wd OF THE INTENSITY Wa OF  
THE 1ST REFLECTED LIGHT TO A HALF OF THE  
INTENSITY We OF THE 2ND REFLECTED LIGHT  
 $Wd = We/2$ ]
    S210 --> S212[CALCULATE A DISTANCE TO THE SUBJECT BY  
USING THE RATIO Wa/Wd, A DISTANCE FROM THE  
ILLUMINATION UNIT AND THE CAPTURING UNIT,  
AND A POSITION OF A PIXEL OF THE CAPTURING  
UNIT AT WHICH THE REFLECTED-LIGHT INTENSITY  
RATIO Wa/Wd IS OBTAINED]
    S212 --> END([END])

```

START

SIMULTANEOUSLY EMIT 1ST ILLUMINATION
LIGHT (WAVELENGTH: λ_a) AND 2ND ILLUMINATION
LIGHT (WAVELENGTH: λ_b ($< \lambda_a$), λ_c ($> \lambda_a$))
RESPECTIVELY HAVING 1ST AND 2ND INTENSITY
DISTRIBUTIONS ON A PLANE PERPENDICULAR TO
AN OPTICAL AXIS

S200

CONVERGE REFLECTED LIGHT FROM THE SUBJECT

S202

OPTICALLY SEPARATE THE REFLECTED LIGHT INTO
1ST REFLECTED LIGHT (WAVELENGTH: λ_a) AND
2ND REFLECTED LIGHT (WAVELENGTH: λ_b , λ_c)

S204

RECEIVE THE 1ST AND 2ND REFLECTED LIGHT

S206

DETECT INTENSITIES W_a AND W_e OF THE 1ST AND
2ND REFLECTED LIGHT

S208

OBTAIN A RATIO W_a/W_d OF THE INTENSITY W_a OF
THE 1ST REFLECTED LIGHT TO A HALF OF THE
INTENSITY W_e OF THE 2ND REFLECTED LIGHT
 $W_d = W_e/2$

S210

CALCULATE A DISTANCE TO THE SUBJECT BY
USING THE RATIO W_a/W_d , A DISTANCE FROM THE
ILLUMINATION UNIT AND THE CAPTURING UNIT,
AND A POSITION OF A PIXEL OF THE CAPTURING
UNIT AT WHICH THE REFLECTED-LIGHT INTENSITY
RATIO W_a/W_d IS OBTAINED

S212

END

FIG. 19

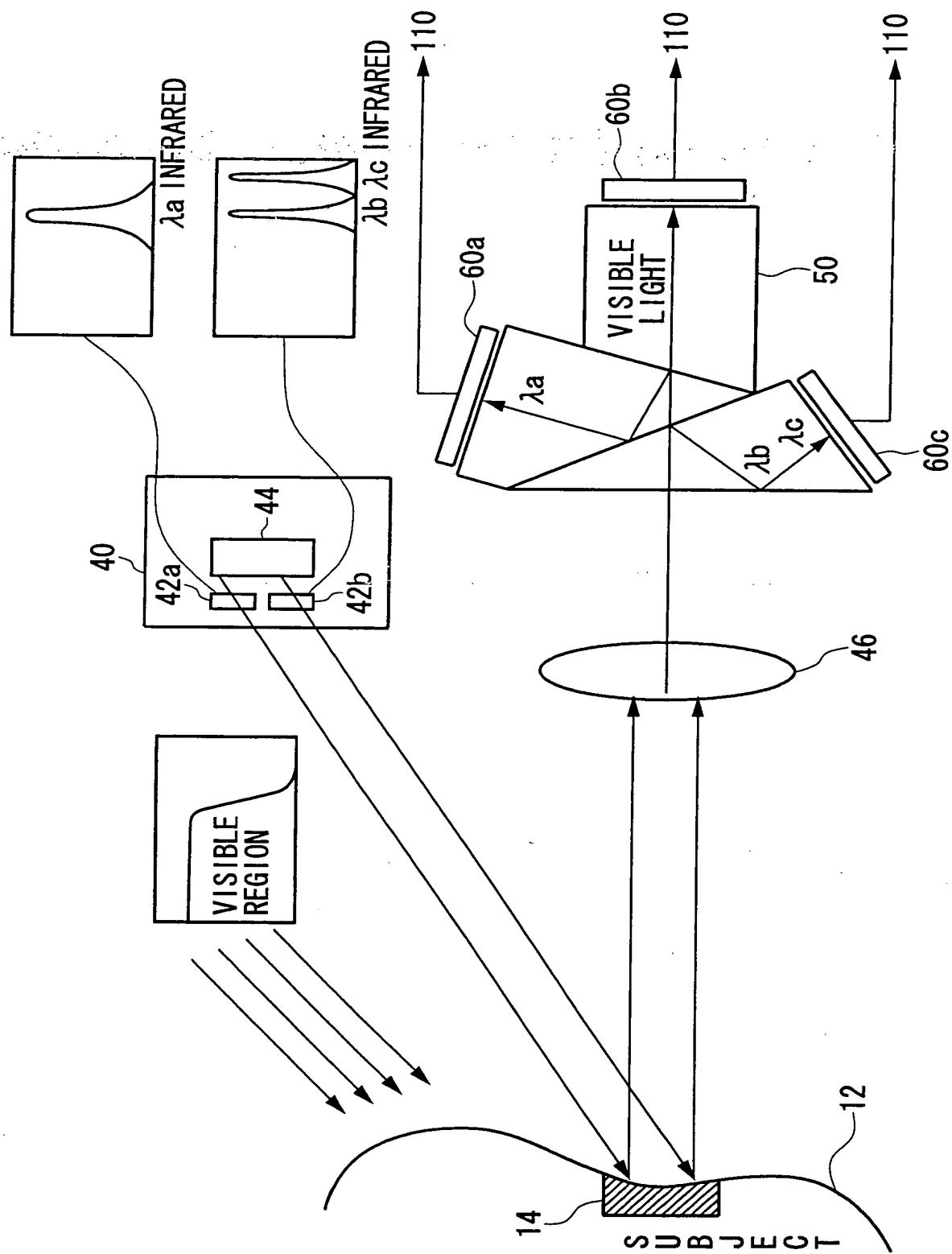


FIG. 20

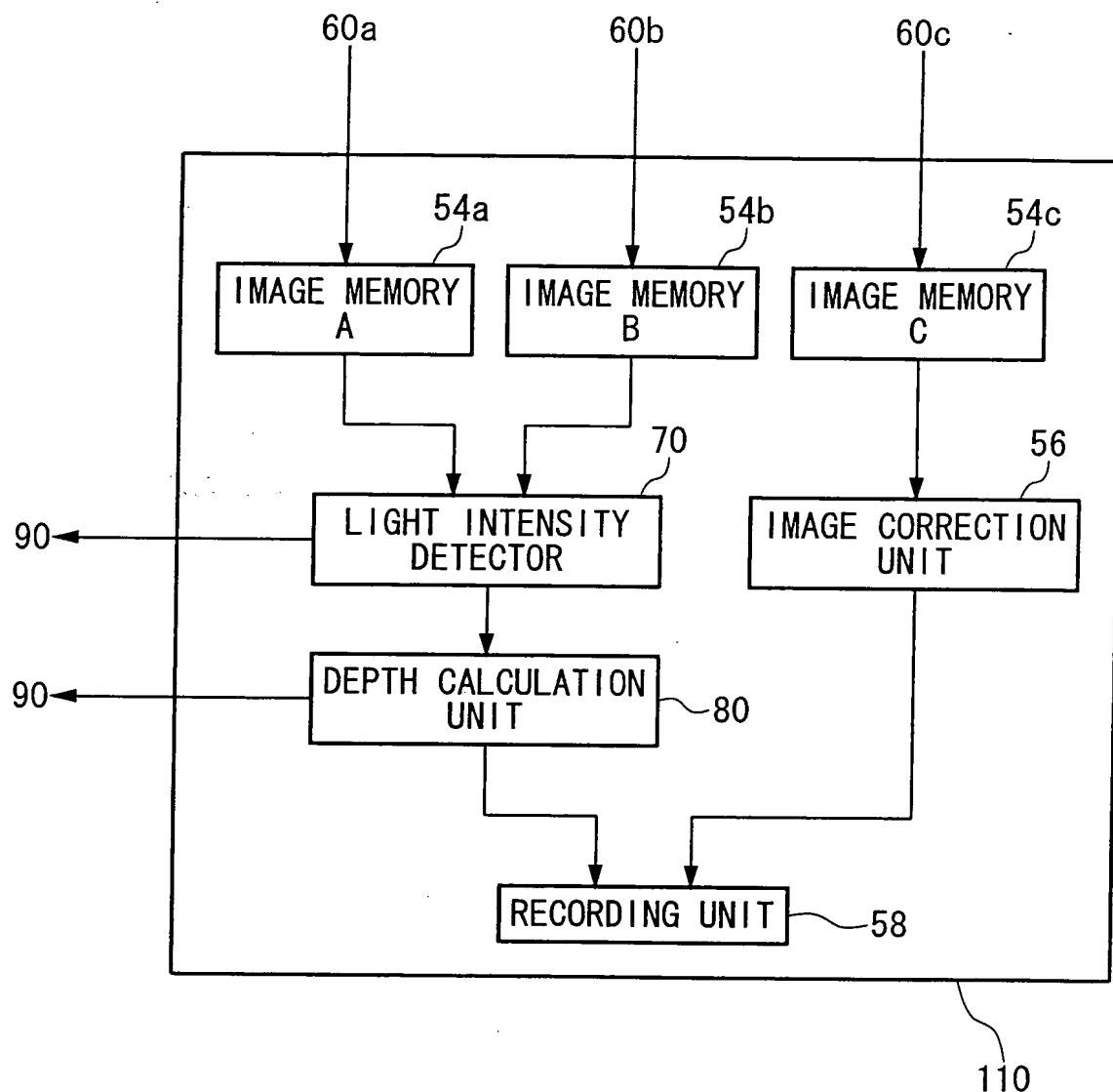


FIG. 21

FIG. 22A

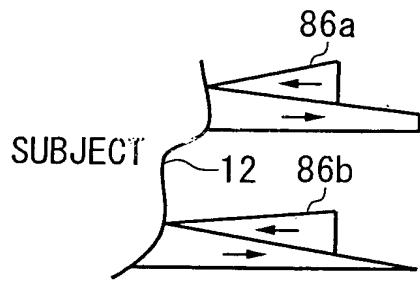


FIG. 22B

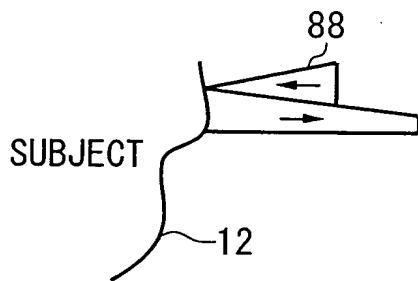


FIG. 22C

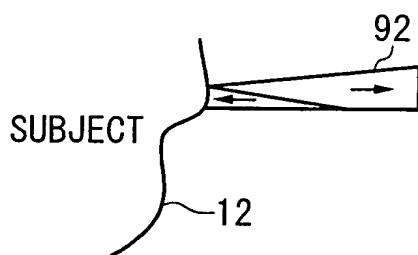


FIG. 22D

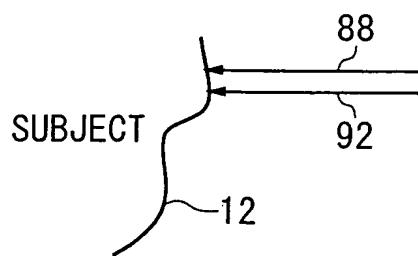
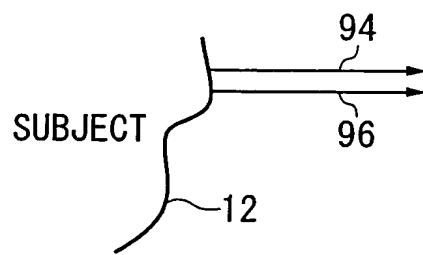


FIG. 22E



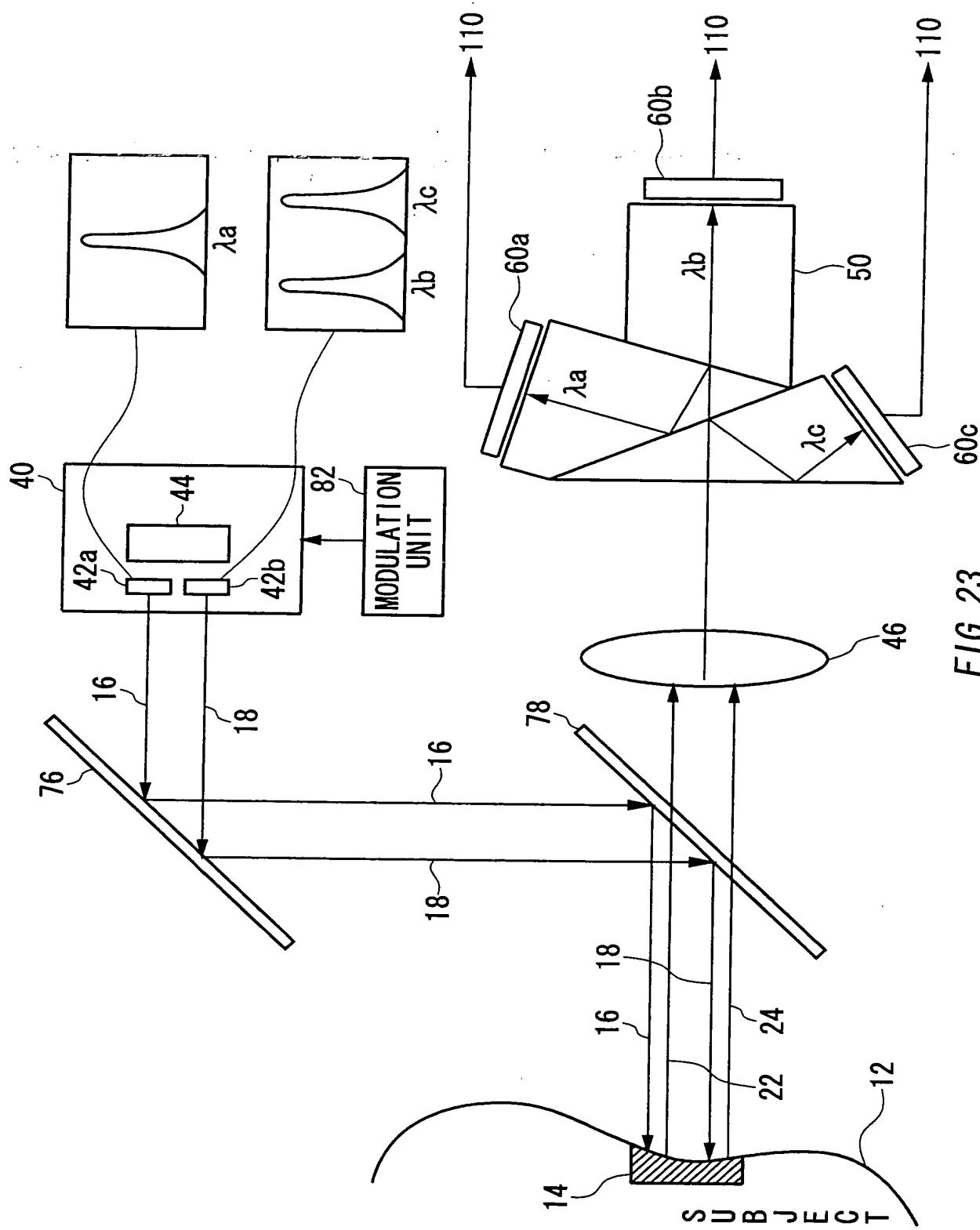


FIG. 23

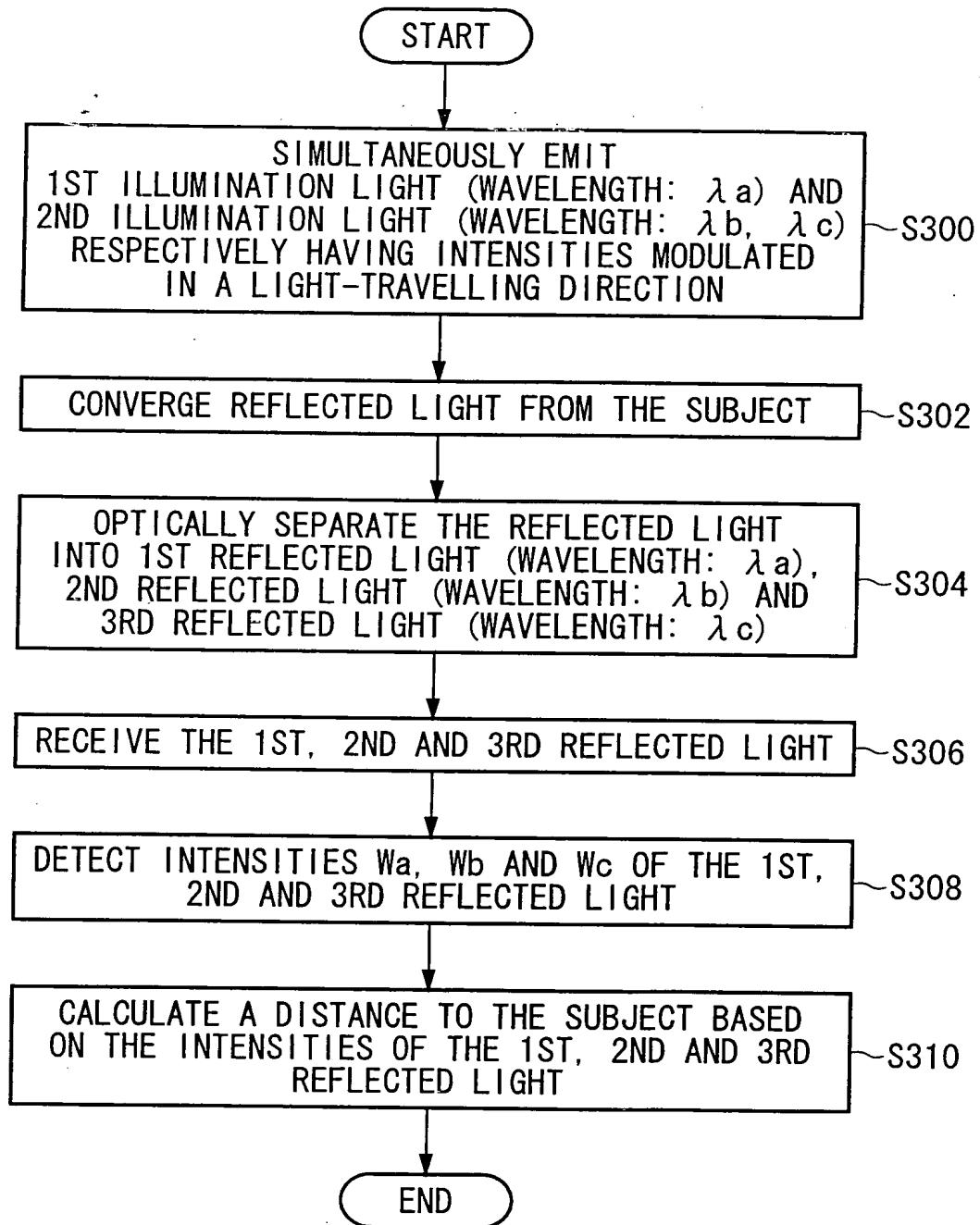


FIG. 24

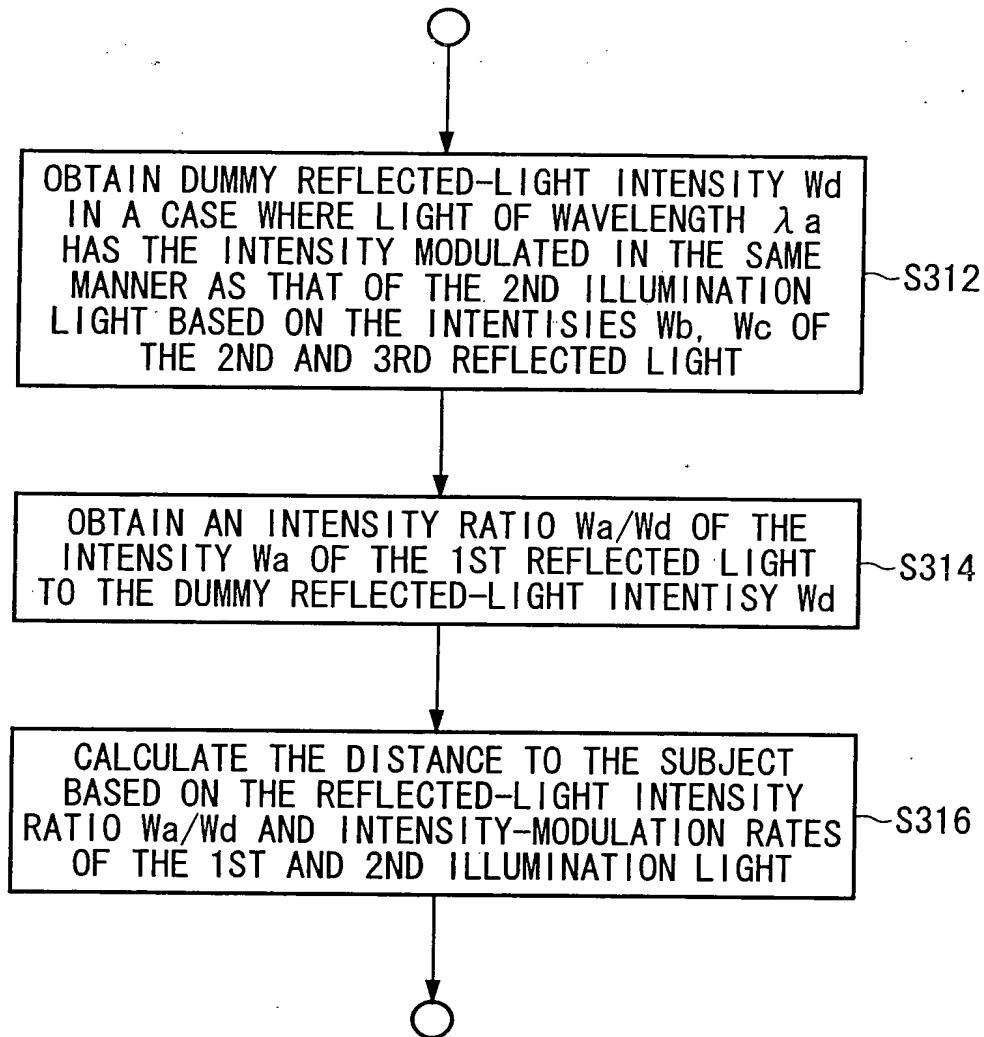
S310

FIG. 25

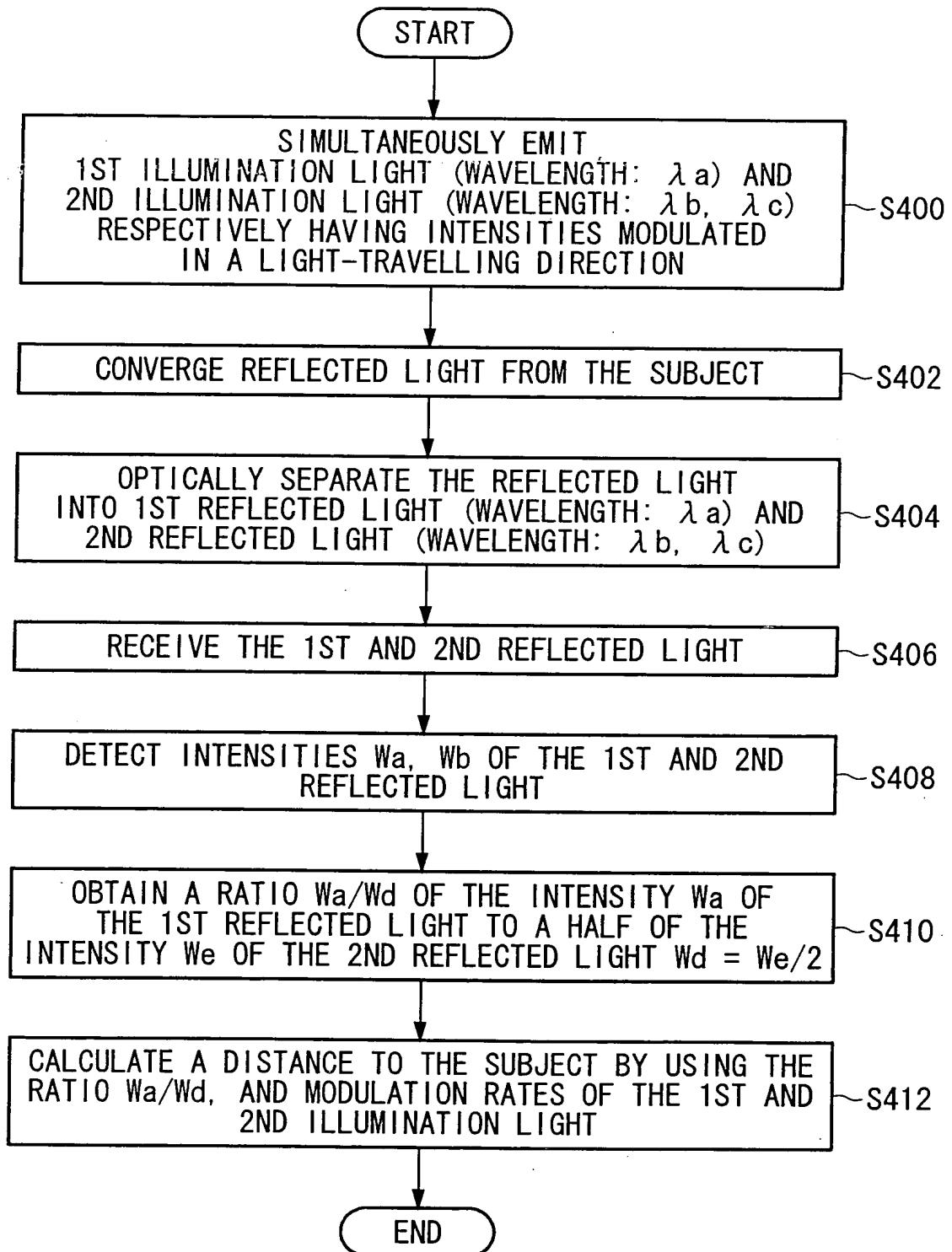


FIG. 26